

Appl. No. 09/901,400
Amdt. Dated December 13, 2005
Reply to Office action of October 21, 2005

REMARKS

The Applicant has reviewed the Office action of October 21, 2005. In response to the Office no claims have been amended or canceled. Claims 3-14 were canceled in a previous response. Accordingly, claims 1-2 remain pending in the present application. The Applicant requests reconsideration of the present application in view of the remarks below.

Claim Rejections – 35 U.S.C. § 103

Claims 1 and 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ishibashi et al.* in view of *Bush*. Applicant respectfully traverses the rejection.

The Examiner has identified within *Bush* two motivations for making the proposed combination of *Ishibashi* and *Bush*. These are 1) “to facilitate assembly” and 2) “to enhance the overall cost-effectiveness of the splined connection assembly of *Ishibashi*.” (Final Office Action, page 3). Additionally, the Examiner provides motivation as “to effectively compensate clearance deviations between the mating members.” (*Id.*). These motivations will be addressed, in turn, below.

A case of obviousness requires that there be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. See MPEP § 2143; *In re Linter*, 458 F.2d 1013, 173 USPQ 560, 562 (CCPA 1972). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), *W.L. Gore and Associates, Inc. v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Moreover, the fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant’s disclosure.” *In re*

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Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As stated in *Akzo N.V. v. United States Int'l Trade Comm'n*, 1 USPQ2d 1241 (Fed. Cir. 1986), prior art references must be read as a whole.

"TO FACILITATE ASSEMBLY"

The Examiner has combined Ishibashi with Bush to cobble together the limitations of independent claim 1. Specifically, the Examiner has combined the device of Ishibashi with the pin members 32 of Bush. However, it is unclear how the pin members 32 of Bush could facilitate the assembly of the device of Ishibashi so as to motivate one of skill in the art to make the proposed combination.

Ishibashi teaches a device while not detailing the assembly thereof. (See generally, Ishibashi). However, Ishibashi does mention compressing elastic blocks during assembly. (Ishibashi, column 6, lines 8-16). Significantly, Ishibashi does not mention any difficulty in assembly nor reveal sufficient information about assembly to enable one of skill in the art to evaluate whether the pin members as taught in Bush would facilitate assembly. (See generally, Ishibashi).

Bush teaches a method of assembly that is easier, compared to the prior art described in Bush. (Bush, column 1, lines 39-45, and column 3, lines 53-55). However, this is not to say that the solution as taught in Bush will make the assembly of the device of Ishibashi any easier. Importantly, the prior art of Bush was to press fit two precisely machined members together. (Bush, column 1, lines 33-37). This method would appear to one of skill in the art to be much more difficult than the method of installing the two members of Ishibashi. Therefore, the solution of Bush would not appeal to one of skill in the art since the problem of Bush is not the problem of Ishibashi.

Importantly, if the proposed combination were to be made, one of skill in the art would recognize that the resulting device would be difficult to assemble. Bush teaches that the two members are assembled then the pin members 32 are driven therebetween. (Bush, column 5, lines

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29-60). As mentioned earlier, Bush teaches that this is easier than press fitting the two members. (Bush, column 3, lines 45-46).

As illustrated in FIGS. 1 and 5 of Ishibashi, the location of the splined connection of the two members is within the female shaft 14a. Additionally, the male shaft 16 has an enlarged portion immediately adjacent the female shaft 14a to accommodate the rear universal joint 17. (Ishibashi, FIG. 1). One of skill in the art would recognize that the assembly method taught in Bush, when performed with the female shaft 14a and the male shaft 16 of Ishibashi, would require one to drive the pin members 32 into the annular space between the female shaft 14a and the male shaft 16 before the pin members would interconnect the splined connection. Additionally, Ishibashi teaches a seal between the female shaft 14a and the male shaft 16 which would make driving a pin member into the female shaft 14a and the male shaft 16 more difficult, as the seal must be on the male shaft 16 prior to assembly. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness, as required in *Ex parte Levengood*, with the motivation of "to facilitate assembly."

"TO ENHANCE THE OVERALL COST-EFFECTIVENESS OF THE SPLINED CONNECTION ASSEMBLY OF ISHIBASHI"

The Examiner points to an additional motivation within Bush for the proposed combination as "to enhance the overall cost-effectiveness of the splined connection assembly of Ishibashi." (Final Office Action, page 3). However, the Examiner has not provided any additional evidence, such as the relative costs of the pin members of Bush or the proposed items replaced in Ishibashi, nor has the Examiner explained how the more complex assembly method (as discussed above) would reduce costs.

"TO EFFECTIVELY COMPENSATE CLEARANCE DEVIATIONS BETWEEN THE MATING MEMBERS"

As a motivation for combining the pin members 32 of Bush with the device of Ishibashi, the Examiner has identified a teaching from Applicant's claim 1. (Final Office Action, page 3). Moreover, one skilled in the art would recognize that the device of Ishibashi presents a solution for this compensation, and does not require one to search for other references. (Ishibashi,

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column 1, lines 57-60). Accordingly, one skilled in the art, with Ishibashi in hand, would not be motivated to seek out any teaching for compensating for clearance deviations since Ishibashi teaches a device that does not have this need.

THE PROPOSED COMBINATION

In addition to the above discussion of the lack of motivation for the proposed combination, the Applicant stresses the incompatibility of the references, as discussed in the earlier response of May 23, 2002. Bush teaches a concentric connection between two members with the pin members 32 as the only members that resist torsional shear loading. (Bush, column 6, lines 44-51). Thus, critical to the teaching of Bush is that the pin members 32 are adequate to resist torsional shear loading.

Thus, the combination of the teachings related to the pin members 32 of Bush with the device of Ishibishi, would result in replacing the splined connection between the female shaft 14a and the male shaft 16 with the pin members 32 of Bush. As mentioned above, Bush describes prior art connection methods between two members and teaches to replace this connection (press fit) with a small clearance between the members and the pin members. (Bush, column 5, lines 38-41, and 59-60). Accordingly, the combination of the connection taught in Bush and the device of Ishibashi would not have "an externally splined shaft," as positively recited in independent claim 1.

Furthermore, one of skill in the art would appreciate that the connection of Bush may be adequate for small electric motors and generators that do not experience large amounts of torque, and that large amounts of torque transmitted through the pin members 32 would likely distort the shape of the spring members. Bush teaches pin members 32 that are tightly fitted in grooves of both members to be connected. (Bush, column 6, lines 44-57, and FIGS. 3-7). Therefore, even assuming *arguendo* that there is some motivation to combine the pin members of Bush with the splined connection of Ishibashi, the circumferential clearance between the male and female splines of Ishibashi (See FIGS. 15 and 17) would permit the pin members 32 to be deformed (or sheared, as mentioned in Bush column 6, line 47) thus reducing or eliminating their effectiveness in reducing radial clearance.

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CONCLUSION

For at least the reasons stated above, the Examiner has failed to establish a *prima facie* case of obviousness for independent claim 1. Dependent claim 2 teaches independently patentable subject matter, although it also patentable by being dependent on an allowable base claim. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

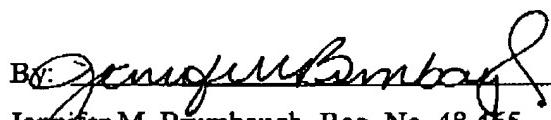
In view of the above remarks, the pending application is in condition for allowance. If, however, there are any outstanding issues that can be resolved by telephone conference, the Examiner is earnestly encouraged to telephone the undersigned representative.

It is believed no fees are due with this response. However, if any fees are required in connection with the filing of this paper that are not identified in any accompanying transmittal, permission is given to charge our Deposit Account No. 07-1360 from which the undersigned is authorized to draw.

Respectfully submitted,

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